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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PHILIPPE, GIMS S

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/766,949	Applicant(s) LIPTON ET AL.	
	Examiner Gims S. Philippe	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-12, 14-28, 30, 32-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42 and 48 is/are allowed.
- 6) ☒ Claim(s) 2-12, 14-28, 30, 32-41, 43-47, 49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The new ground of rejections is rendered necessary in view of a newly found reference during an updated search. The examiner apologizes for the inconvenience, which that may cause the applicant because of previously indicated allowable claims.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 2-12, 14-28, 30, 32-36, 38 and 44-46 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claims 2-12, 14-28, 30, 32-36, 38 and 44-46 define computer readable medium embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed computer readable can range from paper on which the program is written, to a program simply contemplated and memorized by a person.

In the instant application, the Specification defines both statutory and non-statutory embodiments for the computer readable medium (See Specification paragraph 0035, lines 5-8) where a "carrier wave" is defined as the medium.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2621

4. Claims 2-12, 14-28, 32-41, 43-44, 46-47 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nayar (US Patent no. 62155190) in view of the applicant's admitted prior art).

Regarding claims 14, 37, 38, 39 Nayar discloses a computer-readable medium, comprising software encoded thereon to detect passback events, which software when executed by a computer system, causes the computer system to perform operations comprising a method of defining a passback direction for a video monitored area (See Nayar Fig. 2, col. 7, lines 41-48 with the setting of the PTZ system); accessing video collected from the video monitored area (See Nayar Fig. 2, col. 7, lines 30-41); extracting tracks from the collected video detecting passback events based on the passback direction and said extracted tracks (See Nayar Fig. 6, col. 9, lines 40-45); and initiating an action based on the detected passback events (See Nayar Fig. 6, col. 10, lines 1-9).

It is noted that Nayar is silent about extracting foreground from said collected video to obtain extracted foreground; detecting trackable features based on said extracted foreground; tracking said trackable features based on said extracted foreground to obtain extracted tracks; and filtering said extracted tracks.

However, such steps in passback detection are well know and commonly applied techniques as evidenced by the applicant's own admission in the Specification wherein the step of extracting foreground from said collected video to obtain extracted foreground is indicated in applicant's own Specification page 15, paragraph [0053], lines

Art Unit: 2621

2-4; the step of detecting trackable features based on said extracted foreground is provided in applicant's own Specification page 16, paragraph [0054], lines 2-3; and the step of tracking said trackable features based on said extracted foreground to obtain extracted tracks is evidenced by applicant's own Specification page 16, paragraph [0055], lines 2-3; and the step of filtering the extracted tracks is shown in applicant's own Specification page 16, paragraph [0056], lines 2.

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and the applicant's admitted prior art teachings that steps such as extracting foreground from said collected video to obtain extracted foreground; detecting trackable features based on said extracted foreground; tracking said trackable features based on said extracted foreground to obtain extracted tracks; and filtering said extracted tracks are well known steps in the surveillance industry. The skilled artisan would be motivated to modify Nayar along with the steps suggested by the applicant's admitted prior art to provide the above steps for the purpose of reducing false alarm as taught by applicant's admitted prior art (See applicant's own Specification paragraph [0053], lines 9-11).

As per claims 24, 27, 41, 44, 47, most of the limitations of these claims have been noted in the above rejection of claims 14, 37, 38, 39.

It is noted that Nayar is silent about detecting optical flow based on extracted foreground of obtained extracted track as specified in the claims.

However, such steps in passback detection are well known as evidenced by the applicant's own admission in the Specification wherein the step of detecting optical flow based on extracted foreground of obtained extracted track is indicated in applicant's own Specification page 18, paragraphs [0070], [0071].

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art, would have had no difficulty to add to Nayar the well known steps of detecting optical flow based on extracted foreground of obtained extracted track. The motivation for modifying Nayar's passback detector with applicant's admitted prior art teachings is to provide a more aggressive filtering (See applicant's own Specification paragraph [0053], lines 9-11).

As per claims 32, 43, 46, and 49, most of the limitations of these claims have been noted in the above rejection of claims 14, 37, 38, 39. In addition, the step of generating report with at least date and time of detected event is suggested in Nayar recorded PTZ output where the user is able to view items of interest. To the examiner the items of interest as disclosed in Nayar from col. 9, line 65 to col. 10, lines 9 will provide the report as requested by the user.

As per claim 2, Nayar further discloses passback direction is based on at least one of an image of the video monitored area and video of the video monitored area (See Nayar col. 6, lines 39-46).

Art Unit: 2621

As per claim 3, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Millet further provides a user-defined passback (See Nayar col. 7, lines 37-46).

As per claims 4-6, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Nayar further determines the passback via a graphical user interface adapted to permit a user to draw the passback direction (See Nayar col. 7, lines 37-46). In addition, Nayar suggests a graphical user interface in col. 7, lines 60-67 and col. 8, lines 1-4.

As per claim 7-8, most of the limitations of these claims have been noted in the above rejection of claim 6. In addition, Nayar further suggest learning a normal direction for the monitored area based on the observation of the monitored area, and determining the passback direction based on the normal direction (See Nayar col. 8, lines 16-26). The applicant should note that the process of mapping the coordinate the coordinate of a region to ensure that the viewing directions of both systems are the same is considered equivalent to the learning of the normal direction along with determining the passback direction.

As per claims 9-10, most of the limitations of these claims have been noted in the above rejection of claim 8. Since Nayar suggests the necessity to have additional PTZ to translate object coordinate between systems and in situations where the monitoring

Art Unit: 2621

area changes as discloses in col. 8, lines 30-41, the step of providing an additional passback direction is considered met by such a disclosure.

As per claims 11 and 36, Nayar further discloses accessing video in real time form a video camera (See Nayar col. 9, lines 65-67 and col. 10, line 1).

As per claim 12, Nayar further suggest the possibility of accessing tracks of stored video (See Nayar col. 10, lines 3-9).

As per claim 40, most of the limitations of this claim have been noted in the above rejection of claim 39. In addition, specific hardware and software adapted to perform the accessing and analyzing are provided by Nayar (See Nayar col. 10, lines 10-26).

As per claim 35, Millet further discloses generating report for each passback event (Nayar from col. 9, line 65 to col. 10, lines 9).

As per claim 33, Nayar further initiates an action in response to passback event detected (See Nayar col. 9, lines 37-45).

As per claim 34, most of the actions claimed are considered necessary in a video surveillance when an alarm situation is triggered. The response disclosed in Nayar col. 9, lines 37-45 is considered meeting the claimed action

As per claims 15-16, 25-26, most of the limitations of these claims have been noted in the above rejection of claims 14.

It is noted that Nayar is silent about extracting background based on pixel statistics and extracting the foreground on three-frame motion differencing.

However, such steps in passback detection are well know and commonly applied techniques as evidenced by the applicant's own admission in the Specification wherein the step of extracting background based on pixel statistics and extracting the foreground on three-frame motion differencing is indicated in applicant's own Specification page 15, paragraph [0053], lines 1-4.

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art before him/her, would have had no difficulty to add to Nayar the steps of extracting background based on pixel statistics and extracting the foreground on three-frame motion differencing. The motivation for modifying Nayar's passback detector with applicant's admitted prior art teachings is to reduce false alarm (See applicant's own Specification paragraph [0053], lines 9-11).

As per claims 17-19, most of the limitations of these claims have been noted in the above rejection of claim 14.

It is noted that Nayar is silent about subdividing the foreground of collected video into cells to determine appropriate cells as trackable features.

However, such steps in passback detection are well know and commonly applied techniques as evidenced by the applicant's own admission in the Specification wherein the step of subdividing the foreground of collected video into cells to determine appropriate cells as trackable features (See applicant's own Specification page 16, paragraphs [0054-0055]).

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art before him/her, would have had no difficulty to add to Nayar to the steps of subdividing the foreground of collected video into cells to determine appropriate cells as trackable features. The motivation for modifying Nayar passback detector with applicant's admitted prior art teachings is to provide filtered tracks (See applicant's own Specification paragraph [0056], lines 3). The applicant should note that the step of determining the appropriate cell be based on intensity range in cell and presence of edge in cell which is met by the applicant's admitted prior art paragraph (See applicant's own Spec. [0055]).

The applicant should also note that the additional steps of updating the correlation and filtering extracting tracks are considered to be met by the applicant's admitted prior art paragraphs [0055-0056 and 0065].

As per claims 20-23, and 28, most of the limitations of these claims have been noted in the above rejection of claim 17-19.

It is noted that Nayar does not perform the steps of two-dimensional correlation in an area predicted from previous tracked features, one-dimensional correlation on a

Art Unit: 2621

horizontal and vertical projection, and updating previous correlated tracks while filtering out nuisance.

However, such steps in passback detection are well known as evidenced by the applicant's own admission in his/her Specification wherein providing two-dimensional correlation in an area predicted from previous tracked features, one-dimensional correlation on a horizontal and vertical projection, and updating previous correlated tracks while filtering out nuisance are indicated to be well known steps in the art (See applicant's own Specification page 16, paragraphs [0055-0056 and 0065]).

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art, would have had no difficulty to add to Nayar the well known steps of providing two-dimensional correlation in an area predicted from previous tracked features, one-dimensional correlation on a horizontal and vertical projection, and updating previous correlated tracks while filtering out nuisance. The motivation for modifying Nayar's passback detector with applicant's admitted prior art teachings is to provide filtered tracks (See applicant's own Specification paragraph [0056], lines 3). The applicant should note that the disclosure of block 52 of paragraph [0065] is also referred to by applicant's own admission in paragraph [0055].

Claims 42 and 48 are allowed over the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gims S Philippe
Primary Examiner
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